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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/016,096	01/21/2000	Guo-Qing Wei	2001P18253US01	7847

7590 04/21/2005

Siemens Corporation
Intellectual Property Department
186 Wood Avenue South
Iselin, NJ 08830

EXAMINER

LAVIN, CHRISTOPHER L

ART UNIT	PAPER NUMBER
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2621

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/016,096	Applicant(s) WEI ET AL.	
	Examiner Christopher L Lavin	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,6 and 11 is/are rejected.
- 7) ☒ Claim(s) 2-5 and 7-10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Filing Date

1. As the applicant has pointed out prior, the filing date on this case is currently incorrect. The current date is listed as 01/21/00. The applicant lists the filing date as 12/10/01. In order to correct this problem the applicant needs to supply a copy of the Express Mail label. Petitions under 37 CFR 1.10 require a copy of the Express Mail Label to be submitted. The examiner has examined this application with a filing date of 12/10/01 and a priority date of 10/01/01.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 6, and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Wei (6,608,917).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in

the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

In regards to claim 11, A module for processing spinal images, comprising: an input for spinal image data (col. 3, lines 48 – 54); data processing means for executing program code for detecting endplates of vertebra, said detection of endplates accomplished by a method comprising the steps of (col. 3, lines 23 – 30; col. 3, lines 38 – 44): providing a filtered curvature map derived from filtering an intensity curvature map of a spine image in a direction relative to a spine axis (Figure 1, item 18); computing minimum and maximum curvature projections for each point along said spine axis (Figure 1, items 20 and 22); at a plurality of points on said spine axis, computing a score from said curvature projections, said score indicating the likelihood that the point is located on an endplate; and subjecting said score calculation to at least one of the following constraints (Figure 1, item 28; col. 5, lines 17 – 59): (3) that the angle between neighboring endplates not exceed a certain value; and (4) that the variation in height of vertebra of said spine image should satisfy a global model (col. 5, lines 34 – 35: A variation in height is defined by height ratios with neighboring vertebrae contained within a certain range.); and altering said spinal image to indicate the locations of said endplates (Figure 1, item 36).

In regards to claims 1 and 6, claims 1 and 6 are rejected for the same reasons as claim 11. The argument analogous to that presented above for claim 11 is applicable to claims 1 and 6.

Allowable Subject Matter

4. Claims 2 – 5, and 7 – 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. In regards to claims 2 and 7, the art of record does not teach nor does it suggest the specific features called for in the claims, particularly fitting a parabolic curve through a plurality of points and then deriving the maximum and minimum curvature from these parabolic curves for use in detecting endplates of vertebrae.

6. In regards to claims 3 and 8, the art of record does not teach nor does it suggest the specific features called for in the claims, particularly the use of the equation provided in these claims used to calculate the score for indicating the likelihood that a point is located on an endplate.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

8. US Pat. 5,946,370 discloses a system and method for computing the outlines of the vertebrae.

9. US Pat. 6,668,083 discloses determining a cost function for computing the contours of the spine.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher L Lavin whose telephone number is 571-272-7392. The examiner can normally be reached on M - F (8:30 - 5:00).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh M. Mehta can be reached on (571) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CLL


BRIAN WERNER
PRIMARY EXAMINER